

October 23, 2020

***PUBLIC RECORDS PROVIDE NEW INSIGHT INTO PFAS
CONTAMINATION EMMANATING FROM THE SOUTH
CENTRAL REGIONAL WASTEWATER TREATMENT
PLANT AND PALM BEACH COUNTY***

Testing conducted by the City of Delray Beach confirmed that high levels of toxic per- and polyfluoroalkyl substances (PFAS) have been found in the City's drinking water, reclaimed water, and biosolids. This testing showed that combined levels of PFAS in the City's drinking water were 113.15 parts per trillion (ppt), and reclaimed water had levels of 109.2 ppt. Biosolids, otherwise known as sludge, contained PFAS at levels of 35,200 ppt. The City conducted its own testing in response to testing done by PEER in August, which showed high levels of PFAS in the reclaimed water and biosolids produced by the South Central Regional Wastewater Treatment Plant (WWTP).

Overview

On August 4, 2020, Florida PEER [released](#) results of their tests of the reclaimed water and biosolids produced by the South Central Regional Wastewater Treatment Plant (WWTP) that serves the cities of Delray Beach and Boynton Beach, Florida. The test results showed extremely high levels of toxic PFAS in both samples.

PFAS are a family of chemicals that cause cancer, motor disorders in children, obesity, endocrine disruption, and liver and thyroid diseases. The CDC recognizes that exposure to PFAS may impact the immune system and reduce antibody responses to vaccines. PFAS are known as "forever chemicals" due to their persistence in the human body and the environment. There are [over 9,000 PFAS](#), but laboratories can only test for the presence of 36 of these.

PEER's tests revealed that biosolids had 52,300 ppt of 13 different PFAS, and the reclaimed water had 85.3 parts per trillion of 12 different PFAS. Actual PFAS levels in water and biosolids in Delray Beach are likely higher than the reported results due to our ability to only test for 36 types of PFAS.

In response to our tests, the City conducted its own tests. Consequently, we gave the City time to conduct those tests and then submitted a public records request to obtain copies of the test

results.¹ The results provide evidence of the problems facing this WWTP with respect to PFAS contamination. The sampling was conducted on August 6, 2020, by staff at the WWTP. The City provided samples of its finished water, i.e. potable water, to Eurofins Labs and reclaimed water and biosolids to Pace Analytical Services, LLC. On August 25, 2020, Pace issued its report² on the analyses of the latter two samples, while Eurofins issued its report covering potable water on the next day. According to the reports, PFAS contamination was found in all three samples at the following levels:

Drinking Water
Results are in Parts Per Trillion

Contaminant	Reported Levels (ng/L)
Perfluorohexanoic acid	9.8
Perfluoroheptanoic acid	6.7
Perfluorooctanoic acid (PFOA)	16
Perfluorononanoic acid	2.6
Perfluorodecanoic acid	1.1 (Estimated) ³
Perfluorobutanesulfonic acid	13
Perfluorohexanesulfonic acid	8.3
Perfluorooctanesulfonic acid (PFOS)	33
Perfluoropentanesulfonic acid	1.3 (Estimated)
Perfluoroheptanesulfonic acid	0.65 (Estimated)
Perfluorobutanoic acid	9.7
Perfluoropentanoic acid	11

Reclaimed Water
Results are in Parts Per Trillion

Contaminant	Reported Levels (ng/L)
Hexafluoropropylene oxide dimer acid (GenX)	2.1 (Estimated)
Perfluoro-1-butanesulfonic acid (PFBS)	17
Perfluorohexanesulfonic acid (PFHxS)	5.0
Perfluoro-n-butanoic acid (PFBA)	8.6
Perfluoro-n-decanoic acid (PFDA)	1.3 (Estimated)
Perfluoro-n-heptanoic acid (PFHpA)	4.6
Perfluoro-n-hexanoic acid (PFHxA)	20
Perfluoro-n-nonanoic acid (PFNA)	5.2
Perfluoro-n-octanoic acid (PFOA)	9.4
Perfluoro-n-pentanoic acid (PFPeA)	16
Perfluorooctanesulfonic acid (PFOS)	20

¹ Our request was submitted pursuant to Chapter 119, Florida Statutes.

² A copy of the report is attached hereto.

³ Estimated Results are results that were estimated by the analyzing laboratory

Biosolids
Results are in ug/kg
Conversion to Parts Per Trillion
Requires Multiplication Factor of 1,000

Contaminant	Reported Levels (ug/kg)
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2.3 (Estimated)
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	4.5 (Estimated)
Perfluoro-n-decanoic acid (PFDA)	2.4 (Estimated)
Perfluoro-n-dodecanoic acid (PFDoA)	1.4 (Estimated)
Perfluoro-n-nonanoic acid (PFNA)	1.4 (Estimated)
Perfluoro-n-undecanoic acid (PFUdA)	1.2 (Estimated)
Perfluorooctanesulfonic acid (PFOS)	22

The combined results are:

- Potable Water—113.15 part per trillion
- Reclaimed water—109.2 parts per trillion
- Biosolids—35,200 parts per trillion

Potable Water

The results for potable water are alarming. A number of states have recently set drinking water standards for a variety of PFAS chemicals. These results would exceed many of [those standards](#). For example, Massachusetts recently set a drinking water standard of 20 part per trillion for 6 PFAS and Michigan recently set standards for 7 different types of PFAS, including a standard for PFOA at 8 parts per trillion and PFOS at 16 parts per trillion. By comparison, the level of PFOA found in the drinking water serving Delray and Boynton Beach was 16 parts per trillion and the level of PFOS was 33 parts per trillion.

Recent research [finds](#) that the safety threshold for PFOA in drinking water should be as low as 0.1 ppt. In 2018, the federal Agency for Toxic Substances Control proposed a so-called [Minimal Risk Level](#) that, converted to a drinking water limit using EPA calculation methods, equals 11 parts per trillion. Responding to the emerging crisis of PFAS pollution, the European Union [has proposed](#) a new ‘group limit’ value for PFAS of 0.5 parts per trillion, in addition to limits for 16 individual PFAS of 0.1 parts per trillion in drinking water.

Under the Trump Administration, EPA has failed to develop drinking water standards for PFAS and has maintained a voluntary threshold of 70 parts per trillion of PFOA and PFOS. The absence of EPA action has been [roundly criticized by scientists](#) and has created public confusion about what levels of PFAS are safe in drinking water.

Reclaimed Water

There is a significant risk of exposure to the public from PFAS-laden reclaimed water, which is used for lawn irrigation and things such as golf course irrigation. These results are likewise alarming given Delray Beach's history of cross-connections that have historically exposed and unknowing public to a risk of contamination. There is also a risk that reclaimed water will percolate into groundwater, thereby contaminating drinking water with PFAS.

The City of Delray Beach states as much on its [website](#):

When reclaimed water is used, it eases the demand on traditional, often limited, sources of water. By recycling or reusing water, communities can still grow while minimizing or even reducing their impact on the water resources around them. Water reuse involves using highly treated domestic wastewater for a new purpose. Reclaimed water systems are continually monitored to ensure the health and welfare of the public and the environment are protected. Using reclaimed water also reduces discharges to deep injection wells, **recharges ground water** and postpones costly capital investments in the development of new, more costly water sources and supplies (emphasis added).

Delray gets its drinking water from the [east coast surficial aquifer](#) that draws from groundwater in the region.

Biosolids

The levels of PFAS in biosolids are extremely high and a serious public health concern. Biosolids, or dried sludge, from wastewater treatment plants is often sold as fertilizer to farms, golf courses, sport fields and in stores for use by the general public in their gardens. Studies have documented PFAS [absorption by crops](#), such as lettuce, tomatoes and radishes and [in milk](#) from soils fertilized with sewage sludge. In addition to contaminating food supplies, PFAS-laden fertilizers will also run off of fields and gardens and contaminate water supplies and drinking water supplies.

In 2018, the EPA's inspector general [reported](#) that the agency was falling short in tracking hundreds of pollutants in sludge, including PFAS.

PEER has investigated and found that Delray Beach's biosolids are sold in the market place for fertilizers. This means that the PFAS from the biosolids is likely ending up in our food supply and circulating back into our water supply.

Under Section II. A. 1. of Delray Beach's permit, the WWTP is allowed to transfer its biosolids to the Solid Waste Authority of Palm Beach County (SWA). This facility is certified to operate by the FDEP, and under Section B. Specific Conditions, Subsection R. Biosolids Treatment Facility Conditions, SWA is authorized to handle its biosolids as follows:

Biosolids generated by this facility may be distributed and marketed, used as a biofuel or for bioenergy or disposed of in a Class I solid waste landfill. Transferring biosolids to an alternative biosolids treatment facility does not require a modification to these Conditions. However, use of an alternative biosolids treatment facility requires submittal of the agreement pursuant to Rule 62-640.880(1)(c), F.A.C., along with a written notification to the DEP SED Office at least 30 days before transport of the biosolids.
[Rules 62-620.320(6) and 62-640.880(1), F.A.C.]

Section B., Subsection R.g.2.a. SWA has a side-agreement with another organization called the NEFCO Biosolids Processing Facility (NEFCO) to operate the SWA facility. NEFCO processes dewatered municipal biosolids and converts them to dry pellets that are then used as a fertilizer “. . . for citrus groves, golf course, and other horticultural application.” NEFCO/SWA permit, Part 1. B. page 3.

We submitted a public records request to SWA to obtain records that would show whether or not SWA had obtained biosolids from Delray Beach during the time that our sampling was conducted and, if so, how the biosolids are disposed. The records received from SWA showed that during this time, the Delray Beach WWTP sent more biosolids to SWA than any other facility in the region, except for the East Central Regional Wastewater Facility. In January and February 2020, the Delray Beach WWTP sent 2,326.25 and 2,072.46 tons of biosolids respectively to SWA.

The processed biosolids at SWA were then disposed of by sale to two separate companies, Gonzalez Enterprises and Aglime Sales, Inc. 88% of the biosolids were sold to Gonzalez Enterprises. Our search into these two companies indicated that Gonzalez Enterprises is located in Seminole County, Florida and Aglime Sales, Inc., located in Babson Park, FL. Gonzalez Enterprises is a wholesale fertilizer distribution company, while Aglime [touts itself](#) as being the largest distributor of agricultural liming products in Florida and South Georgia. Gonzalez Enterprises does not have a website, however, according to Manta.com, the company is located at 2535 River Tree Circle, Sanford, FL 32771. It has an annual revenue of approximately \$1.5 million.

The paper trail therefore indicates that the PFAS contaminated biosolids produced by Delray Beach were sold to two fertilizer companies for the apparent purpose of using them as fertilizer. The ultimate destination of the product is currently unknown.

Current Status and Recommendations

PFAS contamination of water and biosolids should be significant health concern not only to the residents of Delray Beach, but to the entire region. PFAS chemicals are known as “forever chemicals” because they do not break down in the environment and will circulate through our water and food systems until they end up in all of us. The problems in Delray Beach likely exist in many communities throughout the state.

Consequently, we recommend:

1. Delray Beach immediately notify its residents and the public of the contamination of the drinking water and reclaimed water, which continues to be used to irrigate lawns and golf courses.
2. The City advise the public to use home water filtration systems that remove PFAS from their drinking water.
3. Delray Beach install all filters necessary to properly protect the public's health.
4. State and local authorities work together to identify the sources of PFAS contamination in the Delray area and throughout the state.
5. State and local authorities need to investigate the use of biosolids as fertilizers from the waste water treatment plant and issue appropriate warning and immediate take biosolids with high levels of PFAS off the market.
6. The state develops standards for PFAS in drinking water and biosolids.
7. The state work with the cities and counties in Florida to hold the companies responsible for the harm caused by these chemicals so that Florida taxpayers and ratepayers do not bear the burden of the damage caused by these chemicals.

It is important to emphasize that Delray Beach has not advised its residents and tourists of the contamination found in its drinking water, reclaimed water and biosolids. This should happen immediately. Even to this day, **after it received the results showing PFAS contamination**, Delray Beach's [official website](#) has continued to aggressively promote the supposed safety of its drinking water. Reclaimed water continues to be used throughout the system to irrigate lawns and golf courses used by the public. Biosolids are sold to SWA to be used as fertilizer.